

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

**PCT****NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

(PCT Rule 71.1)

To:

DAHNR, Christer  
Ström & Gulliksson IP AB  
P.O. Box 7086  
S-103 87 Stockholm  
SUEDE

Date of mailing  
(day/month/year)

31.08.2004

Applicant's or agent's file reference  
PD53537PC

**IMPORTANT NOTIFICATION**

International application No.  
PCT/EP 03/11532

International filing date (day/month/year)  
17.10.2003

Priority date (day/month/year)  
31.10.2002

Applicant

SONY ERICSSON MOBILE COMMUNICATIONS AB ET AL.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the International  
preliminary examining authority:



European Patent Office - P.B. 5818 Patentlaan 2  
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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PD53537PC</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form.PCT/IPEA/416)	
International application No. <b>PCT/EP 03/11532</b>	International filing date (day/month/year) <b>17.10.2003</b>	Priority date (day/month/year) <b>31.10.2002</b>
International Patent Classification (IPC) or both national classification and IPC <b>H01Q7/00</b>		
Applicant <b>SONY ERICSSON MOBILE COMMUNICATIONS AB ET AL.</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of    sheets.

3. This report contains indications relating to the following items:

- I    ☒ Basis of the opinion
- II   ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V    ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  <b>20.04.2004</b>	Date of completion of this report  <b>31.08.2004</b>
Name and mailing address of the international preliminary examining authority:  <div style="display: flex; align-items: center;"> <div>             European Patent Office - P.B. 5818 Patentlaan 2              NL-2280 HV Rijswijk - Pays Bas              Tel. +31 70 340 - 2040 Tx: 31 651 epo nl              Fax: +31 70 340 - 3016           </div> </div>	Authorized Officer  <b>Moumen, A</b>  Telephone No. +31 70 340-4411



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP 03/11532

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

**Description, Pages**

1-10 as originally filed

**Claims, Numbers**

1-18 as originally filed

**Drawings, Sheets**

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 03/11532**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2,11,15,17
	No: Claims	1,3-10,12-14,16,18
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: US 2002/0018021 (PEARNE & GORDON LLP) February 14, 2002

D2: GB 692 692 (CHARLES ALEXANDER VIVIAN HEATH) June 10, 1953

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,3-10,12-14,16 and 18 is not new in the sense of Article 33(2) PCT.
  - 1.1 The document D1 discloses (the references in parentheses applying to this document): a wireless communication device (Fig. 7) and an antenna arrangement (103) for a wireless communication device comprising a loop antenna element (103) comprising five sections (Fig. 6A, Fig. 6C, Fig. 6F, Fig. 7) as claimed by on of claims 1 and 16, wherein the antenna sections form a three-dimensional structure having a two-dimensional extension (see also Fig. 39 of D2). The subject-matter of independent claims 1 and 16 is therefore not new (Article 33(1) and 33 (2) PCT).

Note that, the term "two-dimensional extension" is not clearly defined in claim 1 and 16 (Article 6, PCT). The document D1 (Fig. 7) discloses a substantial two-dimensional extension comprising three sections ( $\text{length of 2D-extension} = 2 \cdot (W-G)/2+s$ , largest loop dimension =  $w$ , ratio  $= (W-G+s)/W = 1.3$ ) in the plane distanced from the PCB plane.
  - 1.2 Furthermore, the antenna disclosed in D1 (Fig. 7) has four additional metallic sections, two feeding ends and a printed circuit board including a ground plane and radio circuits. Therefore, claims 3-8,10,13,14 are not new.
  - 1.3 The length of the loop antenna disclosed in D1 (Fig.7) corresponds to a full wavelength (claim 1). Hence, claim 9 lacks novelty.
  - 1.4 In addition, FIG. 9 in D1 discloses a loop antenna including a passive antenna element (106) for tuning purposes. The exact location of the passive element is a design option that can be determined by trial and error or using standard optimisation

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP 03/11532

- procedures (Page 4, paragraph 65 in D1). Hence, claim 12 is not novel.
- 1.5 The document D1 (Fig. 6G, paragraph 54) shows a loop antenna that is patterned on a dielectric material and which can be assembled by surface mounting. Claim 18 is therefore not new.
- 2 The additional features of claims 2, 11, 15, and 17 are merely straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed. Hence no inventive step is present in the subject-matter of claims 2, 11, 15 and 17 (Article 33(1) PCT and Article 33(3) PCT).